

APRIL/MAY 2024

**CBC52 — MOLECULAR BIOLOGY**

Time : Three hours

Maximum : 75 marks



**SECTION A — (10 × 2 = 20 marks)**

Answer ALL the questions.

1. What is the DNA replication?
2. Why was Meselson Stahl Experiment important?
3. Write the role of reverse transcriptase.
4. List the three process of central dogma.
5. Find the importance of ribosomes.
6. Why is proofreading importance in translation?
7. What are the types of gene regulation?
8. Why is gene expression important?
9. What causes gene mutation?
10. Define nonsense mutation.

**SECTION B — (5 × 5 = 25 marks)**

Answer ALL the questions.

11. (a) Identify the types of the DNA polymerase.

Or

(b) Analyze the methodology in Frederick Griffith experiment.

12. (a) Describe about the mRNA processing.

Or

(b) Examine the role of various inhibitors in transcription.

13. (a) Discuss about protein targeting.

Or

(b) Explain the process of initiation in translation.

14. (a) Write short note on bacterial gene regulation in lactose.

Or

(b) Explain about recombinant gene.

15. (a) Discuss about missense mutation.

Or

(b) Write about the Gregor Mendel theory in gene mutation.

**SECTION C — (3 × 10 = 30 marks)**

Answer any THREE questions.

16. Explain Hershey chase experiment.

17. Elaborate how RNA is formed in elongation process.

18. Discuss the process of translation.

19. Explain the mechanism of trp operon.

20. Describe the types of mutation.

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